Fort Jefferson Stabilization

ENVIRONMENTAL ASSESSMENT **January 2003**

SCOPING NOTICE

The National Park Service (NPS) is preparing an environmental assessment (EA) to address options for stabilizing historic Fort Jefferson located within Dry Tortugas National Park, Monroe County, Florida. The NPS has contracted with Parsons, a qualified consultant, to assist with the preparation of the EA. This notice begins the EA process by requesting your comments on the scope of the analysis that will be conducted.

A Public Scoping Workshop will be held:

March 20, 2003
Monroe County Public Library, 700 Fleming Street
Key West
Time: 4:30 - 7:30 PM

The public is welcome to attend at any time during the three-hour workshop. No presentations are scheduled. The meeting format is intended to promote informal interaction with staff, exhibits and opportunities to make written and verbal comments.

BACKGROUND

Fort Jefferson, one of the largest coastal forts ever constructed, is located on Garden Key, 70 miles west of Key West (see location map, Figure 1). Construction on the fort began in 1846 and continued for nearly 30 years. During the Civil War the fort remained in Union hands, and served as a prison for captured deserters. The Army abandoned Fort Jefferson in 1874, and the area converted from a wildlife refuge to a unit of the National Park System in 1935. The fort covers approximately 17 acres, and is 45 feet high. Over 16 million bricks were used in its construction. Fort Jefferson and Garden Key are the focal point of park visitation (Figure 2). Portions of the fort currently serve as employee housing, offices, storage, and maintenance areas. The fort is deteriorating, especially on its exterior walls and in the embrasures (gun openings), and arches. The fort is surrounded by a near-pristine marine environment, with abundant life including coral reefs and nesting sea turtles. An adjacent island, Bush Key, has the only sooty tern rookery in the United States. Additionally, the islands serve as a stopover for migratory birds.

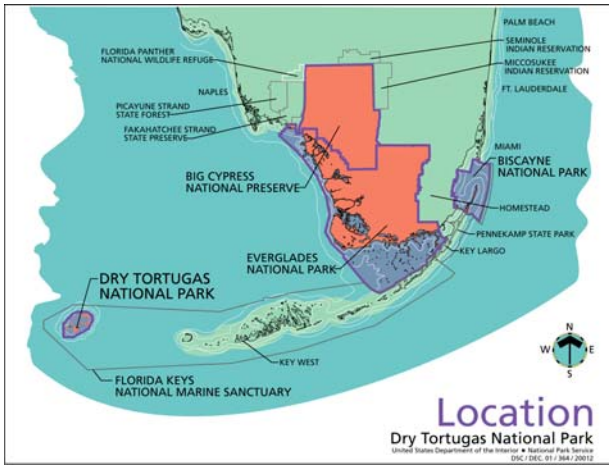


Figure 1. Location map. Fort Jefferson is located within Dry Tortugas National Park.

Figure 2. An aerial view of Fort Jefferson on Garden Key, with Bush Key in the background.

PURPOSE AND NEED

The proposed project involves intensive stabilization and preservation of the fort, using contracted work crews and materials. One reason why the exterior fort walls are deteriorating is because iron was used in the construction of the embrasures and shutters. Over time, exposure to the marine environment caused the iron to rust and expand, causing the adjacent masonry walls to crack and fall into the moat (Figure 3). The marine environment is also harsh on the mortar, and significant portions of the fort are in need of "repointing" (mortar replacement, Figure 4). Parade (interior) walls also are in need of stabilization, as are the stair towers, the casemates and bastions (all interior structures), and the lintels (supporting brick/stone work above windows and doors). Also, the exterior walls below the water line have never been examined for stability. To do so would require the building of temporary cofferdams within the moat.

PRELIMINARY ALTERNATIVES

The NPS is considering 3 preliminary alternatives to stabilize Fort Jefferson in an environmentally sound manner:

1. No Action .
2. Contracted stabilization, imported sand.
3. Contracted stabilization, local sand.

The alternatives are described below and compared in Table 1.

Alternative 1: No Action

In conformance with National Environmental Policy Act (NEPA) standards, a "No Action" alternative is included. The term "No Action" implies the existing stabilization and preservation methods, i.e., current conditions, would continue. In this case, current maintenance consists of 8 NPS employees for 1-2 months per year, repairing 6-8 embrasures per year. Sand for the mortar would come from excess sand deposited within the moat, on walkways, on seaplane ramps, and currently stockpiled on Garden Key. This rate of repair does not keep pace with the rate of the deterioration of the structure.

Alternative 2: Use a contractor to stabilize the fort, and import needed sand.

The proposed stabilization plan for the fort consists of two phases. Phase I consists of stabilizing the lower level embrasures. In this phase, the iron embrasures and shutters would be removed, bricks would be replaced as needed, and repointing would be accomplished as needed. Iron from the embrasures would be removed from Garden Key and disposed properly. The rubble pile (caused by the 1960s destruction of the officers' quarters), located outside of the fort and east of the moat wall (Figure 5), would be ground up and used as "fill" for embrasure repair. Any additional sand (besides the stockpiled sand) needed for embrasure repair and repointing would be imported to Garden Key via a barge. Phase II consists of repairing the upper level embrasures, parade walls, stair towers, casemates, and replacing lintels. This phase would require scaffolding and the exterior walls below the water line would be checked and tested by using cofferdams to temporarily displace moat water.

Alternative 3: Use a contractor to stabilize the fort, and use local sand.

This alternative is the same as Alternative 2, except that additional sand would not be imported. Instead, sand would come from local sources. Sand would be excavated down to the high tide line from the "land bridge" connecting Garden Key and Bush Key. These islands were separate until the land bridge formed within the last three years. Additionally, remaining debris from the rubble pile would be buried onsite at Garden Key, and the displaced sand from this activity would be used in the stabilization.

Figure 3. Deterioration of exterior walls.

Figure 4. Missing mortar.

Preliminary Resource Considerations

Preliminary consultations identified the following issues and concerns about the project. The NPS is collecting limited baseline data to help evaluate effects on some of the most important resource concerns. The resource considerations identified to date include:

- Cultural resources
- Wildlife and Protected Species
- Marine Life
- Human Health and Safety
- Vegetation
- Visitor Experience

If public or agency concerns arise, additional resources may be evaluated.

TABLE 1. Fort Jefferson stabilization comparison of alternatives.

ELEMENT	Alternative 1. No action (current).	Alternative 2. Contract, import sand.	Alternative 3. Contract, use local sand.
Rate of repair	Slower than deterioration	Faster than deterioration	Same as Alternative 2
Exterior wall below water line	Would remain untested	Would be examined and repaired as needed	Same as Alternative 2
Sand	Previously stockpiled and accrued sand from moat, walkways, and seaplane ramp	Same as Alt. 1, and additional sand would be imported from outside the park	Same as Alt. 1, and additional sand would be obtained from the “land bridge” and from displaced sand where the rubble pile remains would be buried
Work crew size	8	20	Same as Alternative 2
Housing	Use of NPS housing	Temporary on-site housing	Same as Alternative 2
Time	1-2 months per year, for foreseeable future	First phase: 16 months intense activity, additional phases would last remainder of 5 years	Same as Alternative 2

Public Participation

There will be opportunities for the public to be informed about and participate in the EA process. Figure 6 describes the timeline for this project.

The pre-addressed comment form accompanying this scoping notice can be used to submit written comments. In order to consider your comments for the draft EA, please return the form by **April 7, 2003**. Comments may also be submitted by e-mail at the address shown.

Once the draft EA has been completed, the document will be released to the public to review for a period of 30 days, during which another public workshop will be scheduled. Written comments on the draft EA will be accepted during this period.

The NPS will maintain a mailing list throughout the process. Informational materials will be distributed during the process to those on the mailing list. In addition, anyone interested in being added to the mailing list should reply via the enclosed comment form or contact the NPS at the address listed.

Figure 5. Moat (left) and rubble pile (arrow).

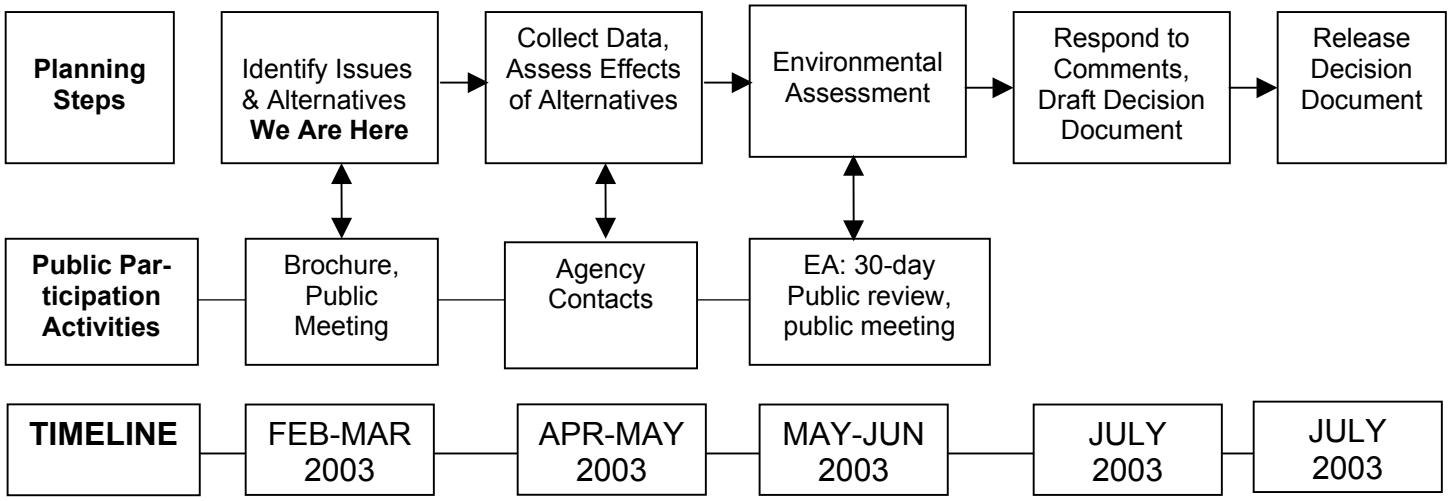
For more information, visit our web page at:
http://www.nps.gov/ever/planning

Please address comments or questions to:

National Park Service
Everglades and Dry Tortugas National Parks
Attn: Elsa Alvear, Environmental Specialist
40001 S.R. 9336
Homestead, FL 33034

e-mail: Elsa_Alvear@nps.gov

Figure 6. EA Process and Timeline



FORT JEFFERSON STABILIZATION
PUBLIC COMMENT FORM

Please use this form to record your comments regarding proposed improvements to the Fort Jefferson Stabilization within Dry Tortugas National Park. These comments will be considered in developing stabilization options and the Environmental Assessment for this project. **Please return this form by April 7, 2003.** Additional sheets may be attached if needed. Fold the form so the NPS address is showing and tape or staple the edges together to mail it.

General Comments: Please list any issues or concerns you wish to see addressed or information about the project you would like to provide:

Alternatives: Internal scoping meetings resulted in the development of preliminary alternatives that are described in the attached brochure. Do you have any comments on these alternatives? Are there other alternatives or strategies that should be considered?

Mailing List

I am interested in receiving future correspondence for this action. (Please circle) □ yes □ no

Note: If this form is not returned, your name will be removed from the mailing list for this project. (Please correct mailing label if in error)

If you wish to be added to the mailing list to receive periodic updates concerning the Fort Jefferson Stabilization Environmental Assessment, please provide your mailing information below. The ease and speed of e-mail correspondence is preferred.

Name: _____ E-mail Address:_____

Address: _____

_____

_____

Thank you for your time and interest in Dry Tortugas National Park.

37¢ POST-AGE

National Park Service
Everglades and Dry Tortugas National Parks
Attn: Elsa M. Alvear
40001 State Road 9336
Homestead, FL 33034